UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,073	01/20/2004	Michael Conradt	1454.1509	7154

21171 7590 02/03/2009

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
RUTKOWSKI, JEFFREY M	

ART UNIT	PAPER NUMBER
2419	

MAIL DATE	DELIVERY MODE
02/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/759,073
Filing Date: January 20, 2004
Appellant(s): CONRADT ET AL.

AARON C. WALKER
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/09/2008 appealing from the Office action mailed 01/03/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

20020032761	AOYAGI	3-2002
5651006	FUJINO	7-1997

Case, "Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2)", RFC 1907 (January 1996), pp. 5

McCloghrie, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II", RFC 1213 (March 1991), pp. 16, 18 and 27

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 7-8, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi et al. (US Pg Pub 2002/0032761), hereinafter referred to as Aoyagi, in view of Case et al. (Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2)), hereinafter referred to as RFC 1907, and McCloghrie et al. (Management Information Base for Network Management of TCP/IP-based internets: MIB-II), hereinafter referred to as RFC 1213.

For **claims 1, 4-5, 10-11**, Aoyagi teaches an administrator terminal **71** (central management component) **[0139]** determines whether or not a device has implemented a Simple Network Management Protocol (SNMP) agent **[0142]** (determining, from a central management component, whether a network component is a management-capable network component). Aoyagi teaches using previous knowledge about a device by teaching Management Information Base (MIB) objects are stored in tables. The devices are classified into one of router, bridge, switching hub, intelligent hub, terminal or printer **[0155 and figures 8-11]** (if the network component is a management-capable network component, using services provided in the past by the management-capable network component to classify the management-capable network component). An automatic recognition service program is used to determine whether or not a host is SNMP enabled **[0142]** (an inquiry unit to determine, whether a network component is a

management-capable network component). An MIB access module is used to classify devices based on the type MIB supported **[0154]** (a classification unit).

Aoyagi teaches a bridge MIB contains an object that stores the MAC addresses of devices connected to individual packet relay equipment. The information is used to determine port-by-port connections of each piece of packet relay equipment can be detected **[0157]**. Aoyagi does not teach determining whether or not packets have already been forwarded. RFC 1213 teaches the determining forward packet limitation absent from the teachings of Aoyagi by disclosing an ipForwDatagrams MIB object is used to determine the number of datagrams for which a network device was not the destination. Since the device was not the destination an attempt was made to a route to forward the datagrams **[page 27]** (determining whether data packets have already been forwarded between interfaces of the network component). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a ipForwDatagrams MIB object in Aoyagi's invention to give a strong indication the device may categorized as a router.

Aoyagi does not teach determining whether a network component supports layer 3 of the OSI reference model. RFC 1907 teaches the network component determination limitation absent from the teachings of Aoyagi by disclosing a sysServices MIB object is used to determine the set of services a network device potentially offers. The MIB type uses an integer value to indicate on which layer of the Open Systems Interconnect (OSI) model services are being offered **[page 5]** (determining whether the network component supports layer 3 of the OSI reference model). Given RFC 1213 teaches the detection of an intermediate node and RFC 1907 teaches detection of a packet forwarding device it would have been obvious to a person of ordinary skill in the art at the time of the invention to classify the device as a router if the device forwards packets and

supports layer 3 (if the network component supports layer 3 and data packets have already been forwarded, classifying the network component as a router). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a sysServices MIB object in Aoyagi's invention to enable devices connected to a network to be classified by service type.

For **claims 2 and 3**, Aoyagi teaches an automatic recognition service program functions as an SNMP manager. The program recognizes those devices running an SNMP agent **[0142]** (a management agent unit is provided in each network component that is a management-capable network component and the management agent unit enables communication between the central management component and the management-capable network component).

For **claim 7**, Aoyagi teaches each device in a network has an SNMP agent and a management information base. The device information is obtained by sending an Internet Control Message Protocol (ICMP) request from an administrator terminal to devices on the network **[0015]**. The teachings of RFC 1907 and RFC 1213 teach the sysServices and the ipForwDatagrams managed objects **[see claim 5]** (the network component has a management information base with managed objects, and whether the network component supports layer 3 and whether data packets have already been forwarded are determined by an interrogation of the managed objects).

For **claim 8**, Aoyagi teaches each device in the network has an SNMP agent **[see claim 7]** (wherein the management information base is administered by a management agent unit provided in the network component).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi as modified by RFC 1907 and RFC 1213 as applied to **claim 5** above, and further in view of Fujino et al. (US Pat. 5,651,006), hereinafter known as Fujino.

The combination of Aoyagi, RFC 1907 and RFC 1213 teach everything in **claim 5**. Aoyagi teaches the use of an ifNumber MIB object **[Aoyagi, figure 5]** and an ifNumber object **[RFC 1213, page 16]**. The ifNumber object is an integer value that represents the number of network interfaces, regardless of their current state, present on a system. The combination also teaches an ifType object is used to determine the interface type based on physical and link layer protocols **[RFC 1213, page 18]**. The combination does not teach how a switch or a host is determined. Fujino teaches the host determination limitation absent from the teachings of the combination by disclosing a router interrogates a "host" to determine if the device is a gateway, ipForwarding object set to "1". After determining whether or not the host is a gateway the number of ports are counted using the ifNumber object **698**. If there is only one active port **699**, a "normal" status is given to the host. However, if there is more than one active port and the interface is not a loopback interface **699** then a status is set to marginal **[figure 20]** (if the network component does not support layer 3 and/or the network component has not already forwarded data packets, then ports of the network component are counted, if the number of ports is greater than 1, the network component is classified as a switch, and if the number of ports is not greater than 1, then the network component is classified as a host).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a "normal" status to identify a host in Aoyagi's invention since a device with one active interface and does not support Internet Protocol (IP) forwarding is a host. It also

would have been obvious to a person of ordinary skill in the art at the time of the invention to use a "marginal" status to identify a switch in Aoyagi's invention since a device not supporting IP forwarding and with multiple active interfaces is more likely a switch.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi in view of RFC 1213 and RFC 1907 as applied to **claim 1** above, and further in view of Fujino.

Aoyagi teaches everything in **claim 1**. Aoyagi does not teach classifying a network device as a host if SNMP is not supported. Fujino teaches the host classification absent from the teachings of Aoyagi by disclosing if a device does not respond to an SNMP request, it is classified as a "host" **[col. 13 lines 27-30]** (further comprising, if the network component is not a management-capable network component, presuming that the network component is a host).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to classify network devices not supporting SNMP as a host in Aoyagi's invention since an administrator may have SNMP "turned off" on host devices to avoid security exploits.

(10) Response to Argument

Appellant's argument with respect to the invention of claim 1 providing for executing two separate and distinct queries for the purpose of properly classifying a management-capable network component is not persuasive. The appellant is arguing features not required by the claims because invention of claim 1 does not require two separate and distinct queries be made. The claimed invention only requires that determinations are made as to whether a network component supports layer 3 and whether a device forwards packets.

Appellant's argument with respect to RFC 1907 and RFC 1213 only being technical papers that merely define the "sysServices" and "ipForwDatagrams" objects is not persuasive.

Request For Comments (RFC) are published by the Internet Engineering Task Force (IETF) and are used to describe methods, behaviors, research, or innovations applicable to the working of the Internet and Internet-connected systems. In other words, an RFC is an open standard, which can be used by anyone, that allows devices in heterogeneous environments to inter-operate.

Appellant's argument with respect to neither RFC 1907 nor RFC 1213 disclose the inventive steps of claim 1, which include determining whether the network component supports layer 3 of the OSI reference model and determining whether data packets have already been forwarded in the past between the interfaces of the management-capable network component for the purpose of properly classifying a management-capable network component is not persuasive for two reasons.

First, RFC 1213 defines the "ipForwDatagrams" object. The "ipForwDatagrams" object is specifically used to determine if a device is behaving as a router because the "ipForwDatagrams" object "looks to see" if an intermediate node is trying to find a route to forward packets to their final destination.

Second, RFC 1907 defines the "sysServices" object. The "sysServices" object is specifically used to determine the set of services a device potentially offers by examining the layer(s) of the OSI model that are supported by the device. The "sysServices" object uses an algorithm to determine which layer(s), including layer 3, of the OSI are supported. Therefore, by definition, the "ipForwDatagrams" and the "sysServices" objects are used to perform the features of determining support for Layer 3 and determining if packets have already been forwarded.

Appellant's argument with respect to the Examiner's motivation for combining the references not being proper because the sysServices object, per its own definition, would be

sufficient to classify network components. The appellant further argues it would not be obvious to on skilled in the art to further include a step of determining whether data packets have already been forwarded in the past between the interfaces of the management-capable network component for the purpose of properly classifying a management-capable network component is not persuasive. The sysServices object would not be sufficient to classify network components because the sysServices object only gives information indicating "...the set of services that [a network node] potentially offers." According to the definition of the sysServices object, a device that supports layer 3 of the OSI model generically supports Internet Protocol (IP) services. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use other Management Information Base (MIB) objects, such as the ipForwDatagrams object, to gather more specific information about the network node. Aoyagi supports the Examiner's assertion because the Aoyagi examines multiple MIB values to determine the type of a particular node **[0154]**.

Appellant's argument with respect to the motivation to combine being based on hindsight knowledge because ipForwDatagrams only provides information regarding forwarded datagrams is not persuasive. Aoyagi makes use of an "ipForwarding" object that is used in a node classification process **[0154]**. Aoyagi did not disclose a definition for the "ipForwarding" object. RFC 1213 defines an "ipForwDatagrams" object that is used to determine whether or not a device is performing the functions of a router. Therefore, the motivation to combine is based upon the definition of the "ipForwDatagrams" object as it is known in the art.

Appellant's arguments with respect to the motivations of "to give a strong indication the device may be categorized as a router" and "to enable devices connected to a network to be

classified by service type," which are quoted directly from the applicants' disclosure (see paragraphs [0030]-[0033] of the specification) are not persuasive. The motivations to combine came from the definitions of the "sysServices" and "ipForwDatagrams" objects and not from the applicant's disclosure. The "sysServices" object classifies components based upon sets of services (service types). The "ipForwDatagrams" object is used to determine whether or not a device made an attempt to find a route to forward packets to a final destination, which is the functionality that is performed by a router.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

JMR 01/26/2009

Conferees:

Jayanti Patel JP

/JAYANTI K PATEL/

Supervisory Patent Examiner, Art Unit 2419

Hassan Kizou

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2419